

1050524-01302

We claim:

1. An extending double-stent apparatus for placement in a bifurcating vessel comprising a first generally cylindrical stent having sides extending between first and second opposing ends and at least one opening being defined in a side; and a second generally cylindrical stent adapted to extend through one of said side openings of said first stent, said first and second stents each being constructed from a material which allows said stents to be expanded to conform to the shape of the subject vessel.
2. The stent apparatus of Claim 1 wherein said second cylindrical stent additionally comprises a proximal end and an opposing distal end, wherein the proximal end additionally comprises a flared portion, which flared portion is in contact with the edges of said first stent side opening.
3. The stent apparatus of Claim 1 wherein the stent apparatus is comprised of a biologically acceptable material.
4. The stent apparatus of Claim 1 wherein the stents comprise a self-expanding material.
5. The stent apparatus of Claim 1 wherein the stents comprise a balloon-expandable material.
6. The stent apparatus of Claim 1 wherein at least a portion of the stents are imageable during and after insertion.
7. A generally cylindrical stent apparatus comprising a proximal end and a distal end, wherein the proximal end further comprises a flared portion for anchoring said stent apparatus into place within a vessel.

8. The stent apparatus of Claim 7 wherein the flared portion is expandable from a compressed position to a configuration extending radially, at least in part, to the longitudinal axis of the stent apparatus.
9. The stent apparatus of Claim 7 wherein the stent apparatus is comprised of a biologically acceptable material.
10. The stent apparatus of Claim 7 wherein the stent comprises a self-expanding material.
11. The stent apparatus of Claim 7 wherein the stents comprise a balloon-expandable material.
12. The stent apparatus of Claim 7 wherein at least a portion of the stent is imageable during and after insertion.
13. A generally cylindrical stent apparatus having sides extending between first and second opposing ends and at least one opening being defined in a stent side.
14. The stent apparatus of Claim 13 wherein the stent apparatus is comprised of a biologically acceptable material.
15. The stent apparatus of Claim 13 wherein the stent comprises a self-expanding material.
16. The stent apparatus of Claim 13 wherein at least a portion of the stents are imageable during and after insertion.
17. A method for deploying a stent apparatus into a bifurcated vessel comprising the steps of
routing a first guidewire into the main vessel of a subject bifurcating vessel and extending
the guidewire beyond the bifurcation point;
inserting a first generally cylindrical stent apparatus comprising at least one side opening
into an area of bifurcation of the main vessel;

aligning a side opening of the first stent apparatus with the bifurcation point of the bifurcated vessel by inserting a second guidewire and a stabilizing catheter into the first stent apparatus and into a subject branch vessel by passing the second guidewire and the stabilizing catheter through a side opening of the first stent apparatus and into the subject branch vessel; and

expanding the first cylindrical stent apparatus into contact with the walls of the main vessel.

18. The method of Claim 17 further comprising

inserting along the second guidewire and into the stabilizing catheter of the branch vessel a second generally cylindrical stent apparatus, comprising a distal end and an opposed proximal end and further comprising a flared portion at the proximal end, positioned so that the flared portion is within a lumen of a subject branch vessel and contacts at least part of the edge of a side opening of the first stent apparatus;

withdrawing the stabilizing catheter from the subject vessel; and

expanding the second cylindrical stent apparatus at least into contact with the walls of the subject branch vessel.

19. The method of Claim 17 wherein the step of expanding the first cylindrical stent apparatus is performed by balloon catheterization.

20. The method of Claim 18 wherein the steps of expanding the first and second cylindrical stent apparatuses is performed by balloon catheterization.

21. A method for deploying a flared stent apparatus into the ostium of a vessel comprising:

inserting a guidewire through the ostium of a vessel and into the vessel,

inserting around the guidewire a generally cylindrical flared stent apparatus, the flared stent apparatus comprising a distal end and an opposed proximal end and further comprising a flared portion at the proximal end;

positioning the flared portion so that the flared portion is within the ostium of the vessel and contacts at least part of the ostium of said vessel;

dilating the flared stent apparatus at least into contact with the walls of the subject vessel;

and

removing the guidewire from the subject.

22. The method of Claim 21 further comprising the step of dilating the flared stent apparatus by balloon catheterization.